

Patent Claims:

1. Composition for stabilizing or preserving biomolecules, comprising at least one non-reducing disaccharide and at least one protein or polypeptide of the LEA class.
2. Composition according to claim 1, wherein the non-reducing disaccharide is selected from the group consisting of trehalose (D-glucopyranosyl-D-glucopyranose), sucrose (β -D-fructofuranosyl- α -D-glucopyranoside), as well as derivatives thereof.
3. Composition according to claim 1 or 2, wherein the non-reducing disaccharide is trehalose.
4. Composition according to any of claims 1 to 3, wherein the at least one protein or polypeptide of the LEA class has a motif comprising eleven amino acids, which is characterized by the following general formula (SEQ ID NO 1):
(1)-(2)-(3)-(4)-(5)-(6)-(7)-(8)-(9)-(10)-E,
wherein
 - (1) signifies K or T,
 - (2) signifies A, G, K, M or T,
 - (3) signifies R, D, A, E, Q or K.
 - (4) signifies E, K or S,
 - (5) signifies T, F, Y or A,
 - (6) signifies K, R, T or A,
 - (7) signifies D, E or Q,
 - (8) signifies S, R, Y or K,
 - (9) signifies A or T, and
 - (10) signifies G, A or R.
5. Composition according to any of the foregoing claims, comprising at least one protein or polypeptide of the LEA-subclass 3 with an amino acid sequence that is coded by a nucleotide sequence as deposited in GenBank under the accession number AF423069 or S39475.

6. Composition according to any of the foregoing claims, in which the at least one protein or polypeptide of the LEA subclass 3 has a motif comprising 11 amino acids selected from the group consisting of:

- (a) K-T-A-E-F-R-D-S-A-G-E (SEQ ID NO. 2),
- (b) K-G-Q-E-F-K-E-R-A-G-E (SEQ ID NO. 3),
- (c) K-A-E-E-T-K-Q-R-A-G-E (SEQ ID NO. 4),
- (d) K-M-D-E-T-K-Q-R-A-G-E (SEQ ID NO.5),
- (e) K-A-R-K-T-K-D-S-A-A-E (SEQ ID NO. 6),
- (f) K-A-K-E-Y-K-D-Y-T-A-E (SEQ ID NO. 7),
- (g) K-A-R-E-T-T-E-K-A-R-E (SEQ ID NO. 8), and
- (h) T-K-D-S-A-A-E-K-A-R-E (SEQ ID NO. 9).

7. Composition according to any of the foregoing claims, comprising the components of the non-reducing disaccharide and the protein or polypeptide of the LEA class in respective quantities of from 0.01 to 15, or, as the case may be, 0.00001 to 1 weight percent, each with respect to a ready-to-use solution.

8. Process for stabilizing or preserving biomolecules in which the molecule to be protected is incubated in the composition as defined in any of claims 1 to 7.

9. Process for stabilizing or preserving biomolecules immobilized on surfaces in which these loaded surfaces are covered with the composition as defined in any of claims 1 to 7.

10. Surface with immobilized and stabilized or preserved biomolecules, obtained by the process as defined in claim 9.

11. Surface, covered with the composition as defined in any of claims 1 to 7.

12. Surface according to claim 10 or 11 as a component of an analytic and/or diagnostic device.

13. Analytic and/or diagnostic device, comprising a surface as defined in any of claims 10 to 12.

14. A device according to claim 13 selected from the group consisting of biochips, sensor chips, microtiter plates, test tubes and culture dishes.